UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/671,877	09/28/2000	Geoffrey Owen Blandy	AUS9-2000-0573-US1	7181

			EXAMINER
35525	7590	07/29/2004	TSAI, HENRY

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ART UNIT	PAPER NUMBER
2183	

DATE MAILED: 07/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/671,877	BLANDY, GEOFFREY OWEN
	Examiner	Art Unit
	Henry W.H. Tsai	2183

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *6/4/04* .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-13,15-21,23 and 24* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-13,15-21,23 and 24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)	4)☐ Interview Summary (PTO-413) Paper No(s). __ .
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5)☐ Notice of Informal Patent Application (PTO-152)
3)☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *6/4/04* .	6)☐ Other: .

DETAILED ACTION

Note this Office Action comprises new grounds of rejections and, therefore, the finality has been withdrawn.

Claim Objections

1.   Claims 3, 4, 7, 8, 11, 12, and 17-21, 23, and 24 are objected to because of the following informalities:

in claim 3, line 2, "an instruction within a method" should read --the instruction within the method-- since it was mentioned in claim 1 previously;

in claim 7, line 2, "a try block" should read --the try block-- since it was mentioned in claim 1 previously;

in claim 11, line 2, "an instruction within a method" should read --the instruction within the method-- since it was mentioned in claim 9 previously;

in claim 12, line 2, "the means for handling" should read --the means for handling the exception--;

in claim 15, line 2, "a try block" should read --the try block-- since it was mentioned in claim 9 previously;

in claim 17, lines 5-6, "an exception" should read --the exception-- since it was mentioned in line 3 previously;

in claim 17, line 6, "includes" should read -include--;

in claim 18, line 2, "includes" should read -include--;

in claim 19, line 2, "includes" should read -include--;

in claim 19, line 3, "an instruction" should read --the instruction-- since it was mentioned in claim 17, line 7 previously;

in claim 19, line 3, "a try block" should read --the try block-- since it was mentioned in claim 17 previously; and

in claim 23, line 2, "a try block" should read --the try block-- since it was mentioned in claim 17 previously.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3.   Claims 1-5, 7-13, 15-21, 23, and 24 are rejected under 35

U.S.C. 112, second paragraph, as being indefinite for failing to

particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

In claim 1, line 6, it is not clear what "a method" is

referred to since at line 1, further, "A method" was also

mentioned. More specific description for the "method" is

required. Similar problems exist in claim 9, lines 6-7; and

claim 17, line 7.

In claim 1, line 7, it is not clear what is really meant by

"try block" in the claim. Based on Microsoft Computer

Dictionary 5th edition, "try" is a key word specifically used in

the JAVA programming language to define a block of statements

that may throw a JAVA language exception. Therefore, to avoid

being indefinite, a more specific description for the "try

block" in the claim is required.   Similar problems exist in

claim 9, line 7; and claim 17, line 8.

In claim 7, it is not clear why the step of "determining if

the exception is within a try block" is repeated since in claim

1, lines 6-7, the step of "determining if an instruction in a

method that threw the exception is in a try block" implies the

same. Similar problems exist between claims 9 and 15; and

between claims 17 and 23.

Applicant is required to review the claims and correct all

language which does not comply with 35 U.S.C. § 112, second

paragraph.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs

of 35 U.S.C. 102 that form the basis for the rejections under

this section made in this Office action:

A person shall be entitled to a patent unless –

> (a) the invention was known or used by others in this country, or patented or
> described in a printed publication in this or a foreign country, before the
> invention thereof by the applicant for a patent.

5.   Claims 1, 3, 4, 7-9, 11, 12, 15-17, 19, 20, 23, and 24 are

rejected under 35 U.S.C. 102(a) as being anticipated by Bak et

al. (USP 6,009,517) herein referred to as Bak et al.'517.

Referring to claim 1, Bak et al.'517 discloses as claimed,

a method of handling exceptions in a device (see Fig. 2) having

predication, comprising: determining if an exception is pending

(see block 955, Fig. 14B, and see also Col. 12, lines 60-62, by

checking the local storage) based on values of a predicate

register pair (the register files such as 1007, and 1009 in

thread local storage, see Fig. 15, are best reasonably and

broadly interpreted as a predicate register pair); and handling

the exception (by exception handler, see block 905 and block 911

in Fig. 14A) when it is determined that an exception is pending

(see block 955, Fig. 14B, and see also Col. 12, lines 60-62, by

checking the local storage), wherein handling the exception

includes determining if an instruction in a method that threw the

exception (see 901, Fig. 14A) is in a try block (the frame, such

as JAVA FRAME or C++ FRAME , see Fig. 12, containing the

instruction in a method that threw the exception) and invoking a

snippet (the frame invoking the exception handler, see also Col.

11, lines 18-25, regarding a JAVA run time system searches an

exception handler starting within the function in which the

exception was thrown and then propagates through the functions on

the execution stack) associated with the method.

Referring to claim 9, Bak et al.'517 discloses as claimed,

an apparatus for handling exceptions in a device (a computer

system 1, see Fig. 2) having predication, comprising: means for

determining if an exception is pending (see block 955, Fig. 14B,

and see also Col. 12, lines 60-62, by checking the local storage)

based on values of a predicate register pair (the register files

such as 1007, and 1009 in thread local storage, see Fig. 15, are

best reasonably and broadly interpreted as a predicate register

pair); and means for handling the exception (by exception

handler, see block 905 and block 911 in Fig. 14A) when it is determined that an exception is pending wherein the means for handling the exception determines if an instruction in a method that threw the exception (see 901, Fig. 14A) is in a try block (the frame, such as JAVA FRAME or C++ FRAME , see Fig. 12, containing the instruction in a method that threw the exception) and invokes a snippet (the frame invoking the exception handler, see also Col. 11, lines 18-25, regarding a JAVA run time system searches an exception handler starting within the function in which the exception was thrown and then propagates through the functions on the execution stack) associated with the method.

Note claim 17 contains the similar limitations as claims 1 and 9 which are disclosed by Bak et al.'517 as set forth above. Further note all the steps and means described in claims 1 and 9 are certainly implemented in a computer program as claimed.

As to claims 3, 11, and 19, Bak et al.'517 also discloses: handling the exception includes determining if an address of an instruction within a method that threw the exception is in a try block (the frame, such as JAVA FRAME or C++ FRAME , see Fig. 12), and if the address of the instruction is not (see block 903 in Fig. 14A for the situation of "NO", i.e. when exception is not handled in the same frame) in the try block (the frame, such as JAVA FRAME or C++ FRAME , see Fig. 12, not containing the

instruction in a method that threw the exception), invoking a

return (RETURN ADDRESS in frames such as 305 and 307, see also

block 909 in Fig. 14A) associated with the method.

As to claims 4, 12, and 20, Bak et al.'517 also discloses:

if the exception is in the try block, using an associated

exception handler (see block 905 in Fig. 14A for the situation

of YES in block 903 and JUMP TO EXCEPTION HANDLER) for the

method.

As to claims 7, 15, and 23, Bak et al.'517 also discloses:

the snippet invokes a lookup handler for determining if the

exception is within a try block (the frame invoking the exception

handler, see also Col. 11, lines 18-25, regarding a JAVA run time

system searches an exception handler starting within the function

in which the exception was thrown and then propagates through the

functions on the execution stack) of the method.

As to claims 8, 16, and 24, Bak et al.'517 also discloses:

the lookup handler determines if the exception is within the try

block of the method by searching an exception table (inside the

thread local storage, see Fig. 15, containing such as exception

1007 and return address 1009) associated with the method and

determining if an address of the instruction is within the

exception table.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which

forms the basis for all obviousness rejections set forth in this

Office action:

> (a) A patent may not be obtained though the invention is not identically
> disclosed or described as set forth in section 102 of this title, if the
> differences between the subject matter sought to be patented and the prior
> art are such that the subject matter as a whole would have been obvious at
> the time the invention was made to a person having ordinary skill in the
> art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

7.   Claims 2, 10, and 18 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Bak et al.'517 in view of Gschwind et

al. (U.S. Patent No. 6,513,109) hereafter referred to as

Gschwind et al.'109.

As to claims 2, 10, and 18, Bak et al.'517 discloses the

claimed invention except for: determining if an exception is

pending includes determining if a value of a first predicate

register is true and a second predicate register is false.

Gschwind et al.'109 discloses as shown in Figs. 1 and 2, it

is well known in the art to use a first predicate register and a

second predicate register (inside the Predicate Register File)

with true (T) and false (F) to determine events and control a

computer process (see also Col. 2, lines 55-60).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Bak et al.'517's system to comprise: determining if an exception is pending includes determining if a value of a first predicate register is true and a second predicate register is false, as taught by Gschwind et al.'109, in order to determine events and control the processing sequences of the Bak et al.'517's system. Besides, it is just an alternative arrangement for using the bit set representation to control the system comparing with that used in Bak et al.'517's system.

8.   Claims 5, 13, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bak et al.'517.

Bak et al.'517 discloses the claimed invention except for: the device having an IA64 architecture.

However, Bak et al.'517 mentioned in col. 5, lines 45-46, that the other computer architectures having different configurations may also be utilized. It is well known in the art that IA64 architecture is one of different processor architectures; and the predication and the exception handling are the key features existing in an AI64 architecture.

It would have been obvious to one having ordinary skill in
the art at the time the invention was made to modify Bak et
al.'517's system to comprise: the data processing device having
an IA64 architecture in order to allow the Bak et al.'517's
system to process larger data values operations for more precise
calculation results.

Response to Amendment

9.   Applicant's amendments mailed 6/4/04 have been considered
but are moot in view of the new ground(s) of rejection. As set
forth in the art rejections above Bak et al.'517 and Gschwind et
al.'109 teach the claimed invention.

Conclusion

10. The prior art made of record and not relied upon is
considered pertinent to applicant's disclosure.
Krishnaswammy'318 discloses method and apparatus for handling
asynchronous exceptions in a dynamic translation system. When
an asynchronous event occurs, execution of translated
instructions in hardware is halted and control is transferred to
the interpreter at the point at which the exception occurred

during the translation. Buzbee discloses the emulation of

asynchronous signals using a branch mechanism. A predicate

register is globally allocated to serve as a Boolean flag.

Contact Information

11. Any inquiry concerning this communication or earlier

communications from the examiner should be directed to Dr. Henry

Tsai whose telephone number is (703) 308-7600. The examiner can

normally be reached on Monday-Thursday from 8:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful,

the examiner supervisor, Eddie Chan, can be reached on (703)

305-9712. Any inquiry of a general nature or relating to the

status of this application or proceeding should be directed to

the **TC 2100 receptionist whose telephone number is (703) 305-**
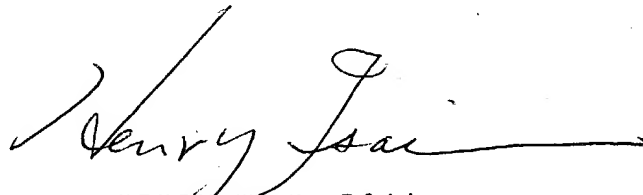
3900.

12. In order to reduce pendency and avoid potential delays,

Group 2100 is encouraging FAXing of responses to Office actions

directly into **the Group at fax number:** 703-872-9306

This practice may be used for filing papers not requiring a fee.

It may also be used for filing papers which require a fee by

applicants who authorize charges to a PTO deposit account.

Please identify the examiner and art unit at the top of your

cover sheet. Papers submitted via FAX into Group 2100 will be

promptly forward to the examiner.

HENRY W. H. TSAI
PRIMARY EXAMINER

July 22, 2004